



Letters

Where has the trust gone? This month we hear from a reader who received a stranger's personal correspondence, tales of infidelity among our loyal readers and a creepy story involving Charles Babbage

THERE CAN BE NO LOVE WITHOUT TRUST



With regard to the ever-increasing threat of identity theft, it is a good idea to shred or otherwise destroy items of personal or financial information, as my family does.

We recently bought something from eBay. The item arrived and was exactly as described and fully functional. However, the seller had lost the original polystyrene packing blocks and had improvised with their own shredded paper. This would have been OK, but not all the items were completely shredded. In the box we found full details of the seller's bank account, credit card, phone, electricity and gas accounts and letters pertaining to her medication.

My wife was aghast and suggested we contact the seller and tell her we would destroy all the papers. Being cynical I said it would be best not to, because if anything were to happen we would be prime suspects. We will just get rid of it ourselves, shred it, burn it or eat it, but make sure it is fully destroyed. The moral of this story is trust no-one.

Roland Dyer

☞ Quite the contrary, Roland. The moral would appear to be, 'Trust *Shopper* readers'. Well done for disposing of her personal information correctly.

Perhaps the eBay seller was under surveillance and needed to move her personal information out of reach? In a situation like that, dumping your

shredded rubbish outside the house is not the cleverest idea. Perhaps sending it to complete strangers is the only way to ensure your privacy if you believe you have specific enemies.

On a serious note, the eBay seller you bought from has been very naïve to think that partially shredded material cannot be recovered. Ideally you would shred not only your private documents but other bits of paper too, such as envelopes and unimportant letters. These will get mixed in with the sensitive stuff and baddies won't be able to assume that every bundle of shredded paper is worth investigating. Encrypting all emails and files on your hard disk, rather than just the top-secret ones, has a similar obfuscating effect.

READERS DOB EACH OTHER IN

In *Computer Shopper* March 2006, there's a letter from Peter Gould entitled Clear Blue Spies, and in the February issue of *Computer Active*, a letter from Andrew Archer called Adware at War.

It is the same letter, give or take two or three changes, and could not have been written by two different people. Compare them and see. I don't suppose I will be the only one to notice this, but if you want to send me mugs or stuff, that's OK.

Chris Simm

☞ We refuse to believe that loyal *Computer Shopper* readers would cheat. Or that other readers would tell tales. Oh, wait...

Please compare Clear Blue Spies in *Computer Shopper* March 2006 with Adware at War in

February's *Computer Active*. Who is cheating?

Cornelis van Leeuwen

☞ It seems that Peter Gould and Andrew Archer are one and the same. We've certainly never seen them in the same room together and the chances of two people coming up with more or less precisely the same letter puts us in mind of infinite monkeys and typewriters – no offence Peter/Andrew.

Computer Shopper is a jealous magazine and we'd ask that you only write to us and don't bother with the other magazines. Some of our competitors, including *Computer Active*, don't even bother to publish an answer to your well-considered missives. We think you're worth more than that.

This leaves us with the issue of the hallowed *Shopper* mug. Do we send such a coveted item to bulk letter writers? Or, if they win a *Shopper* mug as well as some tawdry gift from a less classy magazine, perhaps we should release the mug to them only after they send us the competing present? We could then hold these inferior objects up for ridicule on the *Letters* page. We'd like to know your thoughts.

Incidentally, Chris Simm – and every other letter writer this month – we can't send you anything unless you give us your address. If people continue to omit this information we'll have to make a rule that only letter writers who include their addresses will be given anything. We've already sent a mug to Peter/Andrew. If, as is statistically likely, Andrew is Peter's alter ego (or vice versa) we'd like to ask, does the tea you drink out of your *Shopper* mug taste sweet?

CHARMIN' GARMIN

I was interested to read the Labs test of GPS devices in *Computer Shopper* March 2006. I had recently bought a Garmin StreetPilot i3 and wanted to see how it fared against the rest. I was disappointed with your findings and have not had a problem with it myself. I went to the Millennium Stadium in Cardiff last December and it got me there and back, through the centre of the city, without a problem.

The first thing I did when I got it was to connect it to my computer and download the software upgrade that was available. Did you have the most up-to-date software when you tested it?

I think you have missed a vital property of the device that needed to be covered more. Its size is one of its most important aspects.



▲ Garmin's StreetPilot is small, light and easy to throw out of the car window when it gets you lost

WRITE IN – AND WIN!

Adobe has kindly agreed to give a bundle of its popular Photoshop Elements and Premiere Elements software to this month's star letter writer, furnishing Martin with a powerful graphics program familiar to professional graphic designers, as well as the top-notch video-editing package Premiere Elements 2.0. Photoshop Elements 4.0 enables you to edit and enhance your digital photos easily and effectively, while Premiere Elements makes it simple to edit your own home movies like a pro.



STAR PRIZE
WORTH £100!

PLUS! Every letter-writer also receives a *Computer Shopper* mug





As a Police Sergeant in West Yorkshire, I can tell you that theft from motor vehicles involving sat nav is on the increase. Cars do not get broken into for the radio any more. Sat navs are the new sought-after item.

The Garmin is so small that it is no problem to remove it from the window and put in your pocket. There is no way I would leave such a device in a car while it is parked, not even a police car. The Garmin device is the most portable and that is the reason I bought it.

Your readers need to be aware of the increase in this type of crime and remember the police slogan "crime prevention is better than detection".

Neil Mortimer

Ⓢ We don't deny that the Garmin StreetPilot i3 is well designed and inexpensive. We highlighted both these facts in the review. But we did find that it took a long time for the software to register changes as we drove around. Maybe London confuses it and Cardiff is a simpler city for it to navigate but, whatever the reason, it drove our reviewer to distraction rather than his destination.

A RIGHT ROYAL MISTAKE?

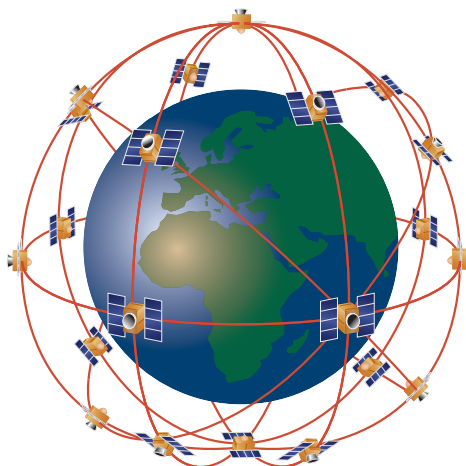
In *How It Works*, Shopper March 2006, Tom Royal explains GPS navigation. However, he doesn't quite explain it. He implies that there is a direct relationship between LORAN and GPS in the way the systems work, but there isn't.

GEE and LORAN work with a master transmitter that broadcasts a pulsed coded analogue signal and is picked up both by a series of slaves and by the user's receiver. When the slaves receive the Master's signal they transmit their own pulsed coded signals. The analogue phase shifts between the master signal and

signals from each of the slaves can be displayed on a CRT and translated into coordinates on a series of hyperbolic curves of equal phase shift (time difference) drawn on the LORAN chart around each transmitter. Where the hyperbolic coordinate curve data coincides unambiguously is the receiver's position.

On the other hand, GPS works on a similar principle to finding longitude by measuring the time difference between local noon and a very accurate clock set to Greenwich Mean Time (GMT), ie 0° longitude. For each hour of time difference, there are 15° of longitude, because the earth turns through 360° in 24 hours and 360 divided by 24 is 15.

If the navigator's GMT clock says the time is 14.00 at Greenwich, when he has just calculated from a sun shot that it is noon where he is, his position is two hours, or 30° longitude, west of



▲ The internet is full of interesting information on how GPS satellites work – and most of it is wrong ➔

DATABASE DESIGN

CUSTOMER SERVICE DATABASE

Q A large company in the IT business has a database of contacts, including email addresses. A number of its customers also subscribe to its magazine. Is it possible to design the contacts database so that when sending a promotional email to customers, encouraging them to take out a subscription, it does not go to those who already subscribe?

So that your answer can be activated quickly, please email your reply directly to the IT company known as Computer Shopper Promotions.

Grant Robb

A Yes, in theory it is possible to build such a database. If you intend to handle as many as a few hundred customers it should be relatively straightforward. However, if you have thousands of customers who subscribe to different services using different email addresses and who may sign up for those services using a variety of methods including the internet, telephone and post, you may run into problems.

One way to be sure would be to assign a unique identity code to everyone and implement some strong authentication so that whenever you contact the company, in any capacity, you have to verify that you are who you claim to be. However, this would not be convenient for most customers.

For example, Dennis Publishing offers facilities such as online competitions and chat forums, as well as more valuable services such as magazine subscriptions. When you contact the subscriptions department you need to prove who you are to prevent others tampering with your subscription.

We don't apply the same level of security to people entering a competition or adding comments to the web forums because it's not necessary and would be irritating and intrusive to customers. For this reason, some people slip through the holes and will be sent subscription offer emails, even though they already subscribe.

That said, anyone who uses the same email address when subscribing to the magazine and signing up to the website should never receive a subscriptions offer email. Those readers who use different email addresses run a higher risk of receiving redundant offers.

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The Editor is always pleased to receive ideas for articles, preferably sent first in outline form, with details of the author's background and, where available, samples of previously published work. We cannot, however, accept responsibility for unsolicited copy and it may take time for us to reply.

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Greenwich. If the time difference is negative, he is east of Greenwich.

GPS uses geostationary satellites with very accurate clocks that act in a similar way to a baseline in the measurement of very tiny time differences. Each satellite runs its time from 00:00:00 on 6th January 1980 and is synchronised with a clock in the GPS receiver. Calculations on the satellites can be mimicked and started at exactly the same time in the GPS receiver, not because it receives a trigger signal but because it knows what the time is and when a calculation should start.

The satellites repeatedly transmit a pseudo-random number string generated by a formula mathematically 'seeded' in a special way to generate a unique series of numbers, plus positional information so the GPS receiver knows where they are. The GPS receiver generates the same number string internally, starting at the same time and using the same formula. The random number strings are produced in parallel and would match exactly if both the satellites and receiver were in the same place...

Roger Britton

☹ Sorry we couldn't publish your entire letter, Roger. It was very interesting but sadly space on the *Letters* pages is limited. Fascinating though your description of GPS is, it must be a different GPS to the one we were talking about. The GPS developed and operated by the US Department of Defense doesn't use geostationary satellites. Geostationary satellites can be positioned only on the equator, which would be little use for a worldwide navigation system. Instead, the 24 satellites move in six different circular orbits completely surrounding the earth.

We found several explanations of the operation of GPS on the internet. Many of them were wrong, and the diagrams were particularly misleading, which is why we decided to present the problem as a mathematical one. Our explanation tallies with the one on the website of the US Coastguard, the organisation responsible for monitoring and reporting the status of the GPS system.

LORAN and GPS are a bit different, but the LORAN phase changes you talk about are equivalent to the time differences measured by GPS receivers, so we think it was accurate to say "GPS works in a similar manner to the original GEE and LORAN radio navigational systems". We thought it was helpful to discuss LORAN to aid understanding of GPS.

STICK THAT IN YOUR PYRROLE!

The chemical structure printed in 'Cheap as Chips', *Shopper* March 2006 is wrong. The structure shown is a poly pyrrole and not polyphenyl-vinylene.

Dr E Kruiswijk

You are correct, of course. The diagram that we published in our feature on microcontroller technology illustrated the structure of poly pyrrole (PPy) and not polyphenyl-vinylene (PPV). Apologies for the confusion.



▲ Babbage invented the first computer

While we were wrong, it is interesting to note that PPy is also a common conducting polymer, fulfilling the same basic requirement of having a long chain of alternate single and double bonds. So any readers who used last month's diagram as the basis for their own experiments may still have had some success in creating plastic processors.

SLIPPED DISC

I'm sure you are aware of how thick your magazine is. I confess that I'm a hoarder and always find I'm running out of shelf space to hold all my issues. Is it possible to reduce the number of permanent adverts in *Shopper* and make more of them separate and fall out?

I understand the reliance on the funds from selling advertising space, so perhaps you could offer back issues on DVD? Then I could sell or give away my paper magazines, safe in the knowledge that the information remains in my house in some form.

J White

☺ You'll be relieved to hear that we already provide a CD containing digital copies of the magazine. This renewal gift is available only to subscribers, who can opt to receive it when it's time to renew their subscription. The disc allows you to browse through different sections of the magazine and open PDFs of individual articles. You can also search for all articles containing a key word, such as 'spam', for instance. If you print out the PDFs, they should look virtually the same as the printed pages in the magazine.

BABBAGE IS BACK... AND HE'S ANGRY, DAMMIT

I refer to 'Computing the Uncomputable', *Shopper* February 2006. The picture of the Turing Machine on page 222 is, in fact, a picture of Charles Babbage's Analytical Engine constructed in 1871. The Turing Machine is correctly described as a conceptual computer and is therefore unlikely to be found in such a physical form. However, a Google search will quickly find a number of computer simulations.

Ian Cox

As you rightly point out, though both Turing and Babbage were pioneers of computing, Charles Babbage (1791-1871) invented practical number-crunching machines whereas Alan Turing (1912-1954) considered the logical implications of conceptual machines.

We cannot work out how the wrong picture appeared in the Computing the Uncomputable feature, and it's certainly not the author's fault.

Strangely, no-one here has any memory of adding that inappropriate picture either. This is spooky, especially as the February 2006 issue marked the fifth anniversary of *Computer Shopper's* last Babbage's Bag column. In *Computer Shopper* February 2001 we published the final instalment of that series, which covered everything from information theory to parity error checking. ☹